EXHIBIT 8

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Efficient Capital Markets: II

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SEQUELS ARE RARELY AS good as the originals, so I approach this review of the market efficiency literature with trepidation. The task is thornier than it was 20 years ago, when work on efficiency was rather new. The literature is now so large that a full review is impossible, and is not attempted here. Instead, I discuss the work that I find most interesting, and I offer my views on what we have learned from the research on market efficiency.

I. The Theme

I take the market efficiency hypothesis to be the simple statement that security prices fully reflect all available information. A precondition for this strong version of the hypothesis is that information and trading costs, the costs of getting prices to reflect information, are always 0 (Grossman and Stiglitz (1980)). A weaker and economically more sensible version of the efficiency hypothesis says that prices reflect information to the point where the marginal benefits of acting on information (the profits to be made) do not exceed the marginal costs (Jensen (1978)).

Since there are surely positive information and trading costs, the extreme version of the market efficiency hypothesis is surely false. Its advantage, however, is that it is a clean benchmark that allows me to sidestep the messy problem of deciding what are reasonable information and trading costs. I can focus instead on the more interesting task of laying out the evidence on the adjustment of prices to various kinds of information. Each reader is then free to judge the scenarios where market efficiency is a good approximation (that is, deviations from the extreme version of the efficiency hypothesis are within information and trading costs) and those where some other model is a better simplifying view of the world.

Ambiguity about information and trading costs is not, however, the main obstacle to inferences about market efficiency. The joint-hypothesis problem is more serious. Thus, market efficiency per se is not testable. It must be

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mutual funds are negatively related to fund expenses (including management fees) and turnover. In short, if mutual, pension, and endowment fund managers are the informed investors of the Grossman-Stiglitz (1980) model, they are apparently negating their inframarginal rents by pushing research and trading beyond the point where marginal benefits equal marginal costs.

VII. Conclusions

The past 20 years have been a fruitful period for research on market efficiency and asset-pricing models. I conclude by reviewing briefly what we have learned from the work on efficiency, and where it might go in the future. (Section IV.D above provides a summary of tests of asset-pricing models.)

A. Event Studies

The cleanest evidence on market-efficiency comes from event studies, especially event studies on daily returns. When an information event can be dated precisely and the event has a large effect on prices, the way one abstracts from expected returns to measure abnormal daily returns is a second-order consideration. As a result, event studies can give a clear picture of the speed of adjustment of prices to information.

There is a large event-study literature on issues in corporate finance. The results indicate that on average stock prices adjust quickly to information about investment decisions, dividend changes, changes in capital structure, and corporate-control transactions. This evidence tilts me toward the conclusion that prices adjust efficiently to firm-specific information. More important, the research uncovers empirical regularities, many surprising, that enrich our understanding of investment, financing, and corporate-control events, and give rise to interesting theoretical work.

It would be presumptuous to suggest where event studies should go in the future. This is a mature industry, with skilled workers and time-tested methods. It continues to expand its base in accounting, macroeconomics, and industrial organization, with no sign of a letup in finance.

B. Private Information

There is less new research on whether individual agents have private information that is not in stock prices. We know that corporate insiders have private information that leads to abnormal returns (Jaffe (1974)), but outsiders cannot profit from public information about insider trading (Seyhun (1986)). We know that changes in Value Line's rankings of firms on average lead to permanent changes in stock prices. Except for small stocks, however, the average price changes are small (Stickel (1985)). The stock-price reactions to the private information of the analysts surveyed in the *Wall Street*